AMENDMENTS TO THE CLAIMS

Claims 1-5, 7-15, 17-25 and 27-33 are pending in the instant application. Claims 1, 7, 10-11, 17, 21, 27 and 31-33 have been amended. The Applicant requests reconsideration of the claims in view of the following amendments reflected in the listing of claims.

Listing of claims:

1.   (Currently Amended) A method for providing and configuring secure Ethernet communication links, the method comprising:

determining any one usable media pair from at least three media pairs of all existing media pairs of a first device, wherein each of said media pairs ~~each comprise~~comprises a twisted pair;

selecting any one channel from all existing channels, said selected any one channel being different from a general channel assignment corresponding to said determined any one usable media pair; and

assigning said selected any one channel to said any one usable media pair[[:]],

wherein said first device communicates using said at least three media pairs of said all existing media pairs.

2.   (Previously Presented) The method according to claim 1, comprising notifying a second device of said assigned any one channel which corresponds to said any one media pair.

3.   (Previously Presented) The method according to claim 2, comprising cross-connecting a corresponding channel and media pair for said second device, said cross-connected channel and media pair being equivalent to said selected any one channel assigned to said any one media pair.

4.   (Previously Presented) The method according to claim 1, comprising negotiating said assignment of said selected any one channel to said any one media pair.

5.   (Previously Presented) The method according to claim 1, comprising selecting from a plurality of predetermined channel and media pair assignments, a particular one of said channel and media pair assignment.

6.   (Canceled)

7.   (Currently Amended)   The method according to claim [[6]]1, comprising securely transferring communication traffic via said communication channel and media pair.

8.   (Previously Presented) The method according to claim 7, comprising securely transferring control information via at least one of said communication channel and media pair.

9.   (Previously Presented)   The method according to claim 8, comprising:

monitoring at least one of said communication channel and media pair by a second device; and

determining said selected any one channel assigned to said any one media pair.

10.   (Currently Amended) The method according to claim 9, wherein said control information is at least one of authentication information, encryption information, channel setup information, and link provisioning and link maintenance information.

11.   (Currently Amended)   A non-transitory machine-readable storage having stored thereon, a program having at least one code section for providing and configuring secure Ethernet communication links, the at least one code

section being executable by a machine for causing the machine to perform steps comprising:

determining any one usable media pair from at least three media pairs of all existing media pairs of a first device, wherein ~~each~~ each of said media pairs ~~each comprise~~comprises a twisted pair;

selecting any one channel from all existing channels, said selected any one channel being different from a general channel assignment corresponding to said determined any one usable media pair; and

assigning said selected any one channel to said any one usable media pair[[;]]_.

wherein said first device communicates using said at least three media pairs of said all existing media pairs.

12.   (Previously Presented) The machine-readable storage according to claim 11, wherein said at least one code section comprises code for notifying a second device of said assigned any one channel which corresponds to said any one media pair.

13.   (Previously Presented) The machine-readable storage according to claim 12, wherein said at least one code section comprises code for cross-connecting a corresponding channel and media pair for said second device, said

cross-connected channel and media pair being equivalent to said selected any one channel assigned to said any one media pair.

14.   (Previously Presented) The machine-readable storage according to claim 11, wherein said at least one code section comprises code for negotiating said assignment of said selected any one channel to said any one media pair.

15.   (Previously Presented) The machine-readable storage according to claim 11, wherein said at least one code section comprises code for selecting from a plurality of predetermined channel and media pair assignments, a particular one of said channel and media pair assignment.

16.   (Canceled)

17.   (Currently Amended) The machine-readable storage according to claim [[16]]11, wherein said at least one code section comprises code for securely transferring communication traffic via said communication channel and media pair.

18.   (Previously Presented) The machine-readable storage according to claim 17, wherein said at least one code section comprises code for securely transferring control information via at least one of said communication channel and media pair.

19.   (Previously Presented) The machine-readable storage according to claim 18, wherein said at least one code section comprises:

code for monitoring at least one of said communication channel and media pair by a second device; and

code for determining said selected any one channel assigned to said any one media pair.

20.   (Previously Presented) The machine-readable storage according to claim 19, wherein said control information is at least one of authentication information, encryption information, channel setup information and link provisioning and link maintenance information.

21.   (Currently Amended) A system for providing and configuring secure Ethernet communication links, the system comprising:

at least one controller enabled to determine any one usable media pair from at least three media pairs of all existing media pairs of a first device, wherein each of said media pairs each comprise comprises a twisted pair;

at least one selector enabled to select any one channel from all existing channels, said selected any one channel being different from a general channel assignment corresponding to said determined any one usable media pair; and

said at least one controller enabled to assign said selected any one channel to said any one usable media pair[[;]].

wherein said first device communicates using said at least three media pairs of said all existing media pairs.

22.   (Previously Presented) The system according to claim 21, wherein said at least one controller is enabled to notify a second device of said assigned any one channel which corresponds to said any one media pair.

23.   (Previously Presented) The system according to claim 22, wherein said at least one selector is enabled to cross-connect a corresponding channel and media pair for said second device, said cross-connected channel and media pair being equivalent to said selected any one channel assigned to said any one media pair.

24.   (Previously Presented) The system according to claim 21, wherein said at least one controller is enabled to negotiate said assignment of said selected any one channel to said any one media pair.

25.   (Previously Presented) The system according to claim 21, wherein said at least one selector is enabled to select from a plurality of predetermined

channel and media pair assignments, a particular one of said channel and media pair assignment.

26.   (Canceled)

27.   (Currently Amended)   The system according to claim [[26]]27, wherein said at least one controller is enabled to transfer communication traffic via said communication channel and media pair.

28.   (Previously Presented) The system according to claim 27, wherein said at least one controller is enabled to transfer control information via at least one of said communication channel and media pair.

29.   (Previously Presented) The system according to claim 28, wherein at least one controller associated with a second device is enabled to:

monitor at least one of said communication channel and media pair by a second device; and

determine said selected any one channel assigned to said any one media pair.

30.   (Previously Presented) The system according to claim 29, wherein said control information is at least one of authentication information, encryption information, channel setup information and link provisioning and link maintenance information.

31.   (Currently Amended) A method for providing and configuring secure Ethernet communication links, the method comprising:

determining any one usable media pair from all existing media pairs of a first device, wherein said each of media pairs each comprisecomprises a twisted pair, and wherein said first device communicates with at least three media pairs of said all existing media pairs;

selecting any one channel from all existing channels, said selected any one channel being different from a general channel assignment corresponding to said determined any one usable media pair;

assigning said selected any one channel to said any one usable media pair;

designating a first combination of said channel assigned to said any one usable media pair as a communication channel and media pair; and

designating a second combination of said channel assigned to said any one usable media pair as a control channel and media pair.

32.   (Currently Amended)   A non-transitory machine-readable storage having stored thereon, a program having at least one code section for providing and configuring secure Ethernet communication links, the at least one code section being executable by a machine for causing the machine to perform steps comprising:

determining any one usable media pair from all existing media pairs of a first device, wherein each of said media pairs each comprise comprises a twisted pair, and wherein said first device communicates with at least three media pairs of said all existing media pairs;

selecting any one channel from all existing channels, said selected any one channel being different from a general channel assignment corresponding to said determined any one usable media pair;

assigning said selected any one channel to said any one usable media pair;

designating a first combination of said channel assigned to said any one usable media pair as a communication channel and media pair; and

designating a second combination of said channel assigned to said any one usable media pair as a control channel and media pair.

33.   (Currently Amended) A system for providing and configuring secure Ethernet communication links, the system comprising:

at least one controller enabled to determine any one usable media pair from all existing media pairs of a first device, wherein ~~each~~ each of said media pairs ~~each comprise~~comprises a twisted pair, and wherein said first device communicates with at least three media pairs of said all existing media pairs;

at least one selector enabled to select any one channel from all existing channels, said selected any one channel being different from a general channel assignment corresponding to said determined any one usable media pair;

said at least one controller enabled to assign said selected any one channel to said any one usable media pair;

said at least one selector enabled to designate a first combination of said channel assigned to said any one usable media pair as a communication channel and media pair; and

said at least one selector enabled to designate a second combination of said channel assigned to said any one usable media pair as a control channel and media pair.